

CLAIMS:

1. A device for preparing a beverage suitable for human consumption with a fine-bubble foam layer, such as coffee or milk with a fine-bubble foam layer, provided with a beverage unit for supplying the beverage under pressure, at least one nozzle which is in fluid communication with the beverage unit for supplying the beverage to the nozzle such that the latter can generate a jet of the beverage, and a receiving unit into which the jet is directed for obtaining said beverage with the fine-bubble foam layer, characterized in that the receiving unit is provided with a chamber having at least one drain opening for delivering the beverage with the fine-bubble foam layer and a jet impact member accommodated in the chamber and having a top which lies free from an inner wall of the chamber, the nozzle and the jet impact member being mutually oriented such that the jet hits against at least a portion of the top of the jet impact member so that the beverage, after hitting against the jet impact member, leaves the chamber through the at least one drain opening in the form of the beverage with the fine-bubble foam layer, while the device is constructed such that air can be supplied to the chamber exclusively through said at least one drain opening and/or through an air inlet channel which extends through the jet impact member into the chamber.
2. A device as claimed in claim 1, characterized in that the chamber is provided with a product feed opening through which the jet generated by the nozzle is fed to the chamber during use.
3. A device as claimed in claim 2, characterized in that the product feed opening is formed by the nozzle.
4. A device as claimed in claim 3, characterized in that a space within the chamber between the nozzle and the jet impact member is free from restrictions that hamper a flow of the beverage between the nozzle and the jet impact member.

5. A device as claimed in any one of the claims 2 to 4, characterized in that the top of the jet impact member is present between the product feed opening and the drain opening.

5 6. A device as claimed in any one of the claims 2 to 5, characterized in that the top is at least substantially directed towards the product feed opening.

7. A device as claimed in any one of the claims 2 to 6, characterized in that a line perpendicular to at least substantially the center of the surface of the top is directed at least
10 substantially towards the product feed opening.

8. A device as claimed in any one of the claims 2 to 7, characterized in that a line perpendicular to a surface of the top in a location where the jet hits the top is at least substantially directed towards the product feed opening.

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9. A device as claimed in any one of the preceding claims, characterized in that the top is at least substantially directed towards the nozzle.

11. A device as claimed in any one of the preceding claims, characterized in that a
20 line perpendicular to a surface of the top in a location where the jet hits the top is at least substantially directed towards the nozzle.

12. A device as claimed in any one of the preceding claims, characterized in that a line perpendicular to a surface of the top in a location where the jet hits the top is directed at
25 least substantially parallel to the jet.

13. A device as claimed in any one of the preceding claims, characterized in that a surface of the top is concave, convex, or ~~planar~~ in shape.

30 14. A device as claimed in any one of the preceding claims, characterized in that the top is located at least substantially in a center of the chamber, as viewed in a plane transverse to the jet.

15. A device as claimed in any one of the preceding claims, characterized in that the top is located at least substantially on a central axis of the chamber.
16. A device as claimed in any one of the preceding claims, characterized in that an axial direction of the jet impact member extends in a longitudinal direction of the chamber.
17. A device as claimed in any one of the preceding claims, characterized in that the inner wall of the chamber is at least substantially rotationally symmetrical in shape.
18. A device as claimed in claim 17, characterized in that the inner wall of the chamber is at least rotationally symmetrical in shape about an axis of rotation which extends in the longitudinal direction of the chamber.
19. A device as claimed in claim 18, characterized in that the axis of rotation extends through the top.
20. A device as claimed in any one of the claims 17 to 19, characterized in that the inner wall of the chamber is at least partly cylindrical in shape.
21. A device as claimed in any one of the preceding claims, characterized in that the jet impact member is connected to the chamber by means of at least one lateral arm.
22. A device as claimed in any one of the preceding claims, characterized in that the beverage unit is provided with a holder for accommodating a product to be extracted and/or to be dissolved, such as coffee, tea, and/or a dairy creamer, and a hot-water unit for supplying hot water to the holder so as to obtain the beverage which is delivered to the nozzle.
23. A device as claimed in claim 22, characterized in that the chamber and the nozzle are connected to the holder.
24. A device as claimed in claim 23, characterized in that the jet impact member is also connected to the holder.

25. A device as claimed in claim 23, characterized in that the jet impact member is not directly connected to the holder.

5 26. A device as claimed in claim 23, 24, or 25, characterized in that the chamber and the nozzle are integrated with the holder.

27. A device as claimed in claims 24 and 26, characterized in that the jet impact member is also integrated with the holder.

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28. A device as claimed in any one of the preceding claims, characterized in that the jet, after hitting the jet impact member, forms a mist of the beverage which flows against and/or along the inner wall of the chamber and subsequently leaves the chamber through the at least one drain opening in the form of the beverage with the fine-bubble foam layer.

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29. A method of preparing a beverage suitable for human consumption with a fine-bubble foam layer, such as coffee or milk, in which method a liquid jet comprising the beverage is generated and said liquid jet is supplied to a receiving unit such that the jet enters the receiving unit under pressure for obtaining the beverage with the fine-bubble foam layer, characterized in that the receiving unit is provided with a chamber with at least one drain opening for delivering the beverage with the fine-bubble foam layer and a jet impact member accommodated in the chamber and having a top which lies free from an inner wall of the chamber, wherein the jet is directed such that the jet hits against a portion of the top of the jet impact member, wherein the beverage after hitting the jet impact member leaves the chamber through the at least one drain opening as the beverage having the fine-bubble foam layer, and wherein air is supplied to the chamber exclusively through the at least one drain opening and/or through an air supply channel which extends through the jet impact member into the chamber.

30 30. A method as claimed in claim 29, characterized in that the chamber is provided with a product feed opening through which the jet is fed to the chamber.

31. A method as claimed in claim 30, characterized in that the jet is generated by means of a nozzle.

32. A method as claimed in claim 31, characterized in that the product feed opening is formed by the nozzle.

5 33. A method as claimed in claim 31 or 32, characterized in that a space within the chamber between the nozzle and the jet impact member is free from restrictions that hamper a flow of the beverage between the nozzle and the jet impact member.

34. A method as claimed in any one of the preceding claims 31 to 33,
10 characterized in that the top is at least substantially directed towards the nozzle.

35. A method as claimed in any one of the preceding claims 31 to 34,
characterized in that the top and the nozzle are mutually positioned such that a line
perpendicular to at least the center of the surface of the top is at least substantially directed
15 towards the nozzle.

36. A method as claimed in any one of the preceding claims 31 to 35,
characterized in that the top and the nozzle are mutually positioned such that a line
perpendicular to a surface of the top in a location where the jet hits the top is directed at least
20 substantially towards the nozzle.

37. A method as claimed in any one of the claims 30 to 36, characterized in that
the top of the jet impact member is located between the product feed opening and the drain
opening.

25 38. A method as claimed in any one of the claims 30 to 37, characterized in that
the top is directed towards the product feed opening.

39. A method as claimed in any one of the claims 30 to 38, characterized in that
30 the top and the product feed opening are mutually positioned such that a line perpendicular to
at least substantially the center of the surface of the top is directed at least substantially
towards the product feed opening.

40. A method as claimed in any one of the claims 30 to 39, characterized in that the top and the product feed opening are mutually positioned such that a line perpendicular to a surface of the top in a location where the jet hits the top is directed at least substantially towards the product feed opening.

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41. A method as claimed in any one of the preceding claims 29 to 40, characterized in that the jet and the top are mutually aligned such that a line perpendicular to a surface of the top in a location where the jet hits the top is directed at least substantially parallel to the jet.

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42. A method as claimed in any one of the preceding claims 29 to 41, characterized in that the jet and the top are mutually aligned such that a line perpendicular to at least substantially the center of the surface of the top is directed at least substantially parallel to the jet.

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43. A method as claimed in any one of the preceding claims 29 to 42, characterized in that a surface of the top is concave, convex, or planar in shape.

44. A method as claimed in any one of the preceding claims 29 to 43, characterized in that the top is located at least substantially in a center of the chamber, as viewed in a plane transverse to the jet.

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45. A method as claimed in any one of the preceding claims 29 to 44, characterized in that the top is located at least substantially on a central axis of the chamber.

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46. A method as claimed in any one of the preceding claims 29 to 45, characterized in that the jet impact member is positioned in a chamber such that an axial direction of the jet impact member extends in a longitudinal direction of the chamber.

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47. A method as claimed in any one of the preceding claims 29 to 46, characterized in that the inner wall of the chamber is at least substantially rotationally symmetrical in shape.

48. A method as claimed in claim 47, characterized in that the inner wall of the chamber is at least substantially rotationally symmetrical about an axis of rotation which extends in the longitudinal direction of the chamber.

5 49. A method as claimed in claim 48, characterized in that the axis of rotation extends through the top.

50. A method as claimed in any one of the claims 29 to 49, characterized in that the inner wall of the chamber is at least partly cylindrical in shape.

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51. A method as claimed in any one of the preceding claims 29 to 50, characterized in that the jet impact member is connected to the chamber by means of at least one lateral arm.

15 52. A method as claimed in any one of the preceding claims 29 to 51, characterized in that a holder is used in which a product to be extracted and/or to be dissolved, such as coffee, tea, and/or a dairy creamer, is accommodated, and hot water is supplied to the holder so as to obtain the beverage with which the jet is generated.

20 53. A method as claimed in claim 52, characterized in that the chamber is connected to the holder.

54. A method as claimed in claim 53, characterized in that the jet impact member is also connected to the holder.

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55. A method as claimed in claim 53, characterized in that the jet impact member is not directly connected to the holder.

56. A method as claimed in any one of the claims 31 to 36 and one of the claims
30 52 to 55, characterized in that the chamber and the nozzle are integrated with the holder.

57. A method as claimed in claims 54 and 56, characterized in that the jet impact member is also integrated with the holder.

58. A method as claimed in any one of the preceding claims 29 to 57, characterized in that the jet, after hitting against the jet impact member, forms a mist of the beverage which flows against and/or along the inner wall of the chamber and subsequently leaves the chamber through the at least one drain opening in the form of the beverage with the fine-bubble foam layer.

59. A unit provided with a receiving unit and a nozzle of the device as claimed in any one of the claims 1 to 28 and a holder for accommodating a product to be extracted and/or to be dissolved, such as coffee, tea, and/or a dairy creamer, wherein the holder, the chamber, the jet impact member, and the nozzle are mechanically connected to one another, and wherein the holder comprises at least one outlet which is in fluid communication with an inlet of the nozzle.

60. A unit as claimed in claim 59, characterized in that the holder is provided with a bottom and an upright side wall which extends around the bottom, wherein said bottom comprises the at least one outlet.

61. A unit as claimed in claim 59 or 60, characterized in that the holder is designed to be filled with at least one pad which comprises an envelope of filter paper and which is filled with the product to be extracted and/or to be dissolved.

62. A unit provided with a chamber and a nozzle of the device as claimed in any one of the claims 1 to 28 and a holder for accommodating a product to be extracted and/or to be dissolved, such as coffee, tea, and/or a dairy creamer, wherein the holder, the chamber, and the nozzle are mechanically connected to one another, and wherein the holder comprises at least one outlet which is in fluid communication with an inlet of the nozzle.

63. A unit as claimed in claim 62, characterized in that the holder is provided with a bottom and an upright side wall which extends around the bottom, wherein the bottom comprises the at least one outlet.

64. A unit as claimed in claim 62 or 63, characterized in that the holder is designed to be filled with at least one pad comprising an envelope of filter paper and filled with the product to be extracted and/or to be dissolved.

65. An assembly of a unit as claimed in any one of the claims 59 to 64 and at least one pad comprising an envelope of filter paper and filled with the product to be extracted and/or to be dissolved, wherein the pad is accommodated in the holder and extends therein
- 5 over a bottom of the holder up to an upright side wall of the holder.